

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number  
**WO 2005/064818 A1**

(51) International Patent Classification<sup>7</sup>:

**H04B 7/26**

(21) International Application Number:

PCT/KR2004/003444

(22) International Filing Date:

24 December 2004 (24.12.2004)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data:

10-2003-0097580

26 December 2003 (26.12.2003) KR

10-2004-0083185

18 October 2004 (18.10.2004) KR

(71) Applicants (for all designated States except US): Electronics and Telecommunications Research Institute [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejeon, 305-350 (KR). SAMSUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, 442-742 (KR). KT Corporation [KR/KR]; 206, Jungja-dong, Bundang-gu, Seongnam-city, Kyeongki-do, 463-711 (KR). SK Telecom Co., Ltd. [KR/KR]; 99, Seorin-dong, Jongro-gu, Seoul, 110-110 (KR). KTFREETEL CO., LTD. [KR/KR]; 890-20, Daechi-dong, Gangnam-gu, Seoul, 135-280 (KR). HANARO TELECOM, INC. [KR/KR]; Shindongah Fire & Marine Insurance Building 43, Taepyeongno 2-ga, Jung-gu, Seoul, 100-733 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): YOON, Chul-Sik [KR/KR]; Daewoo Topia Apt. 1208, Dunsan-dong, Seo-gu, Daejeon-city, 302-120 (KR). KIM, Jae-Heung [KR/KR]; Sejong Apt. 106-807, Jeonmin-dong, Yuseong-gu, Daejeon-city, 305-390 (KR). YEO, Kun-Min [KR/KR]; Daelim-doorei Apt. 108-505, Sinsung-dong, Yuseong-gu, Daejeon-city, 305-720 (KR). LIM, Soon-Yong [KR/KR]; Hanbit Apt. 117-1101, Eoeun-dong, Yuseong-gu, Daejeon-city, 305-755 (KR). RYU, Byung-Han [KR/KR]; Hanvit Apt. 118-604, Eoeun-dong, Yuseong-gu, Daejeon-city, 305-755 (KR).

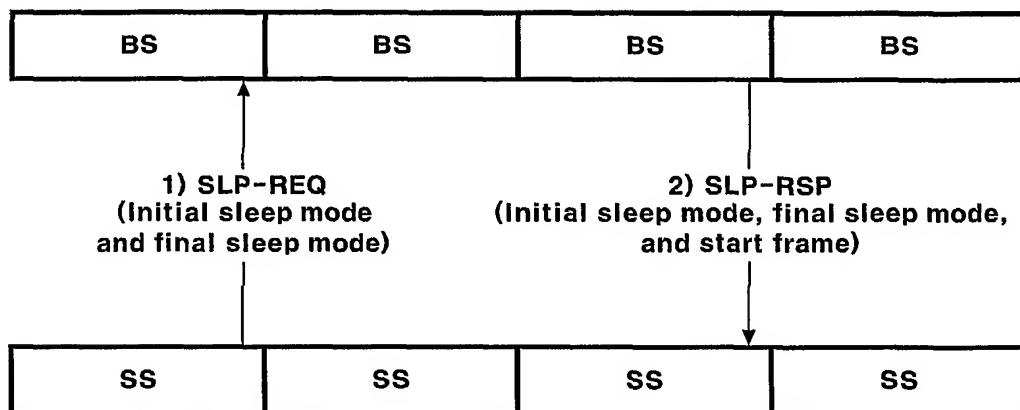
(74) Agent: YOU ME PATENT AND LAW FIRM; Seolim Bldg., 649-10, Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR CONTROLLING POWER SAVING MODE IN WIRELESS PORTABLE INTERNET SYSTEM



(57) Abstract: Disclosed is a method and device for controlling a power saving mode for applying the sleep mode for saving power consumption to the mobility of subscriber stations in a mobile communication network and a wireless Internet system. Subscriber stations entering the sleep mode are constantly grouped, listening intervals of the subscriber stations for each group are not superimposed, the existence state of traffic in the subscriber stations is independently notified for each group, and the overhead of signaling messages is minimized when the traffic is notified to the subscriber station in the sleep mode.

WO 2005/064818 A1



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*